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"Gamification: Rethinking 'playing the game' with Jacques Henriot"

Philippette, Thibault

Abstract

Le concept de "Gamification" se fonde sur l'idée que l'on peut facilement distinguer "un jeu" d'un "non-jeu", et qu'il serait temps que le "non-jeu" prenne en considération ce qui fonctionne avec le "jeu" (McGonigal 2011). Pour Jacques Henriot, qualifier un objet de "jeu" est arbitraire, puisque "Ce que l'on entend aujourd'hui par jeu, dans la société qui est la mienne, avait peut-être un contenu différent dans cette même société au cours des siècles passés, a peut-être une autre signification dans des groupes sociaux différents à l'époque où je vis et sera peut-être incompris des siècles futurs. Car les choses changent. Leur variation est à estimer en fonction de deux coordonnées : le temps et l'espace." (Henriot 1989, 15). Cet article met en contraste la pensée formelle auréolant les préceptes de la "Gamification" avec la pensée philosophique du "jouer" proposée par Jacques Henriot. A travers cela, nous questionnons les fondements mêmes de la Gamification.

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GAMIFICATION: RETHINKING ‘PLAYING THE GAME’ WITH JACQUES HENRIOT

by Thibault Philippette

INTRODUCTION

Gamification principles are based on the following idea: There is the *game*, and there is the *non-game*. We find it is time for the non-game to take into consideration what works in the game (McGonigal 2011a). The aim of the present article is to question this seemingly clear distinction and to show the limits and the contingency of this premise. Jacques Henriot is the author who inspired this article. He is a well-known philosopher in France where he founded the *Sciences du jeu*¹ research laboratory 30 years ago. Unfortunately, his work is almost unknown to the Anglo-Saxon academic world, which partially stems from the fact that his texts have not been translated. For Henriot, the qualification of an object as a game is arbitrary, since “the thing that I call game right now in the world where I live, was different yesterday, may be different tomorrow. It is probably different elsewhere” (Henriot 1989,

1 The term “jeu” in French refers to both English words “game” and “play”. This linguistic feature probably has some cognitive consequences, as we shall see.

15).² Nevertheless, as he highlights, we must resist a double temptation: on the one hand, considering the game to have no intrinsic reality, something he pointed out with some developmental psychologists; on the other hand, considering the game to be overtaking all parts of our culture (Henriot 1969, 6–15). This means if games have an intrinsic reality, it is perhaps not where it is believed to be.

A CRITICISM ABOUT THE GAME OF GAMIFICATION

“I love playing games.” If you identify with this, you probably do too, or at least the subject interests you. But when I say “I love playing games” and you think, “Yes (or no), I (do not) love playing games”, are we sure we are talking about the same thing? Maybe I am thinking of strategy games I have played and you are thinking of puzzles or action games. Our idea of games is probably different. Thus the question is: What makes a game a game?

The concept of game in *gamification* is influenced by video games and the success of this industry. The proponents of gamification are mainly interested in a macro-gameplay design principle: the objective-challenge-reward loop (Albinet and Mousson 2010). According to this principle, the game’s progression is based on causal relations: a task to accomplish, reward, or failure. The design thus consists of developing a system for reward or punishment in the game (e.g. with badges). Behind terms like “onboarding”, “scaffolding”, “pathways to mastery” (Coursera 2013), the proponents of gamification infer that a behaviourist stimulus-response-reinforcement process will naturally motivate the player to play. According to one proponent, Gabe Zichermann, this classic game design principle, which can be found in casual games (“average-challenges” games as he calls them), uses what he calls the “dopamine release loop”, which is what occurs in our brains when an achievable challenge ends in success (rewarded success, of course) (Zichermann and Linder 2013, 132).

The principle in a reward system, which is only one among others in game design, does not make up the basis of every game. For example, the first video game in history *Spacewar!* (1962) had three game objects: two missile-armed spaceships and a main star with a gravity well. There was no

2 Henriot’s emphasis. All quotations from Jaques Henriot are my translations.

scoring system; two players simply tried to destroy each other's spaceship and avoid crashing into the star. How can we consider this a game since it only has a few rewarding elements? Why is it regarded to be the first video game in history, when examples like *Tennis for Two* (1958) or *Mouse in the Maze* (1959) could also claim this status? Game designer Sébastien Genvo gives us an explanation, stating that it was the first video game in history because it was the first game developed as such; the others being software developed with the intention of creating a game (Genvo 2009, 28).

Jane McGonigal, who is credited with being the instigator of gamification with her book *Reality is Broken* (2011a), has recently reacted to the gamification buzz during the Game Developers Conference in a presentation titled "How to Re-Invent Reality without Gamification" (2011b). She admits, like Sebastian Deterding (2010), that points, leaderboards, and challenges do not make a game. She talks about what does make a game – what she calls "gameful design" –, which means "creating the spirit of the gamer". In her keynote talk, while criticising gamification, Jane McGonigal maintains an important idea from her book: There are games and there are non-games, and those who design games can help to improve the non-games. As emphasised by the psychologist Yann Leroux, this is a pleasant discourse in front of a game designers' audience (2011).

Some researchers challenge the separation between game and non-game, considering the game to be an experience rather than a clear system of objects. The game designer Sébastien Genvo uses the term "ludicisation" instead of "ludification" (Genvo 2013) to translate "gamification" into French, just as Ian Bogost criticised the rhetorical "-ify" in the term "gamification" (Bogost 2011), Genvo explains that:

It is necessary not to maintain inherently playful characteristics and the dimensions of an object, but rather to question how some objects, which were not even considered to be games, gradually started to be designated as such, and how, in doing so, the idea we had of what a game is will change. (Genvo 2013)³

3 Translation by the author.

Haydée Silva Ochoa points out that gamification is a hybrid word with an English-prefix and a French-suffix, *-fication*, coming from the Latin *facere*, which means “to do / to make”. The problem is that it “reinforces the idea of an automatic rather than a problematic transformation of an activity usually excluded from the ludic sphere” (Silva Ochoa 2013).⁴ These criticisms draw on the fact that somehow our “language filter” guides our conceptions of things. In English, the distinction between game and play seems to imply that the question should be addressed separately – from the perspective of objects and systems of rules (game) or from the other of the activities of players (play). In French, this distinction does not exist: The free-activity of play or the rule-based game are both found in the same word *jeu*. Unlike other languages, it seems that the distinction is amplified, so the Nordic can “play a play” or “game a game”⁵ (Juul 2011, 28–29). This linguistic fact is not neutral. Language, as explained by the semio-pragmatic, is both a way of represent-

The essence of the game does not lie in the system of objects, but in the relationship that develops between the player and the game.

ing the world, like other symbolic forms, and a way of understanding and interacting with it. By insisting on one aim rather than on another, we reveal how we understand a phenomenon. In this sense, the neologism “gamification” is very clear, and could be translated literally as “make it look like a game”. But behind that, there is the idea of making an object (website,

app, software, or even “reality”) look like another (video game). This obviously infers that: 1. games and non-games are clearly identifiable, 2. it is possible to transpose a game to a non-game, and 3. the associated conduct, *play*, will occur, and with it all its positive effects such as engagement, motivation, fun, etc. *Play* is then reduced to “responding to a game”. But playing is more than that, as Jacques Henriot explains.

4 Translation by the author.

5 In gamification, speaking of “gaming a game” means that players may start cheating the rules of the game that they are supposed to follow. It is considered a gamification risk, or more precisely a risk for the player (in the examples taken) because not following the rules may create a dangerous situation. (Werbach and Hunter 2012, 117–119). For Henriot (see below), it is actually the climax of play, when you play at the extreme limit of the game (Henriot 1989, 92).

THE THEORY OF PLAYING BY JACQUES HENRIOT

In 1969, Jacques Henriot established the foundation for his way of thinking based upon the interwoven themes of obligation, responsibility, and what he calls, the “voluntary condition” in a book simply entitled *Le jeu*. In this book, Henriot explains that: “Le jeu is not in the thing, but in the use made of it” (Henriot 1969, 24).⁶ The syntactic definitions of play proposed by authors like Johan Huizinga (2008 / 1938) and Roger Caillois (1992 / 1958) are somewhat unsatisfactory, because they do not allow us to enter the “*pensée du jeu*” or play thinking. For the philosopher, each element proposed in these definitions can be questioned: a “free” activity? Work is equally free, at least in terms of a certain freedom of means – thus, a separate activity? But if separation means “boundary”, there are *ad minima* two territories around it, and the other is then also separated – so an “unproductive” activity? When the game produces nothing outside itself; however, to some extent, the player is the result of her or his game – an activity with a “set of rules” then? What behaviour does not follow rules? In that case, a “fictitious” activity? The game can be fake, but it is operational not fictional, it really exists (Henriot 1969, 56–64). Jacques Henriot therefore advocates a pragmatic approach to games:

A game can probably be defined objectively by the set of rules that give it its structure. That allows it to be compared to other games. But in doing so, we fail to specify how one game and another are both games. It is implicitly assumed that any definition of a game begins with the proclamation of its playful nature [. . .]. We describe the structure, we list the rules, but we do not say what makes it a game. (Ibid., 41)

He goes on to argue that the things called games refer to the analysis of playing, which is their principle:

Any game [. . .] exists if someone invents and reinvents it as such – for playing, for being played – and if it offers itself to the *praxis* of someone defined as a potential player. (Ibid., 48)⁷

6 Henriot’s emphasis.

7 Henriot’s emphasis.

For him, the essence of the game does not lie for him in the system of objects but in the relationship that develops between the player and the game, explained above with the example of Spacewar! (1962). In this text, Jacques Henriot identifies four criteria characterising the relationship between the player and the game she or he plays (ibid., 73–80):

- Distance: Playing the game remains subjective, no one is ever sure of its reality, not even the player who knows he or she is playing.
- Uncertainty: There is still unpredictability – real or perceived – between the actions and the consequences.
- Duplicity: The player sees her- or himself in a state of “playing” with the assurance that it is just a game.
- Illusion: Entering the game assumes a prior understanding of what the game is. “A playful attitude, like any attitude, is taken” (ibid., 77).

In 1989, according to several published articles (Henriot 2013), Henriot draws a form of synthesis of his reflection: *Sous Couleur de Jouer* (Henriot 1989). As part of an interview with Haymée Silva Ochoa for her PhD (2011), Henriot explains the title of his book:

It is [in *The Savage Mind* by Levi-Strauss] that I found the phrase *Sous couleur de jouer*. *Sous couleur de jouer*⁸ means in reality that we do not play. Basically, we could say that “play” is “the belief that we play”. And to believe, it would mean that we bring, in the interpretation we place on behaviour, contents of ideas, ideas that I willingly call metaphysical, because they exceed experience [...]. For example, we believe it is possible to introduce into things unpredictability, unexpectability, contingency. And above all, and there is the big word, “freedom”! The player feels free, but is he really? (Brougère 2013)⁹

According to Henriot, there could be a kind of “double illusion” in the act of playing. The first, symbolic or semantic, is due to the status given to the game. It can be called: “the game illusion”.

8 Wearing the colours of a player, i.e. having a player mentality.

9 Translation by the author.

To play, you must enter the game. To enter the game, you must know that it is a game. There is therefore, from the one who gets to play, a first understanding of the meaning of game. (Henriot 1969, 77)

A *game* in this sense is primarily an idea (Henriot 1989, 15–16). This idea is globally and culturally shared between the people who design the game and the people who accept to play it. Issues of computer-mediated interactions often obscure the role of the cultural conception of the game. Playing video games is seen as a kind of interaction between an object and a user. But the video game is foremost *something designed as a game*, and then it could be seen as a shared idea of playing. In other words, video game designers try, via computer-interactivity, to transmit an idea of how to play this game and players try to understand and in a way *accept* this idea as a game to be engaged in. It is a kind of co-design, as J.P. Gee pointed out (2005). Once this idea is accepted, as described by Caillois, then comes the conduct associated therewith, to conform to the game's forms and the associated illusion ("the play illusion"). If the first step, for Henriot, is necessary for the second, both are ontologically related:

[. . .] I do not think that the two English words game and play refer to two different types, one with rules, and the other without. Rather, they characterise two different aspects, but complementary ones, of any act of playing. There is no playing without a requirement of rationality, without an obligation that we ourselves impose, without respecting some kind of rule; there is no game if the structure remains empty and purely formal, if it is not referred to as an instrument of possible play.

(Henriot 1989, 107–10)

Jacques Henriot explains that a game is actually the representation of a kind of conduct in relation to a situation's shape (ibid., 216). To be played, the situation should allow for it, and the subject in the situation should have the capacity to perceive and imagine the situation as a game. "Taken separately, neither the situation nor the mental attitude is enough to make it a game" (ibid.). Jacques Henriot uses the concept of "*jouabilité*" to describe a situation conducive to play. "I propose to theorise as '*jouabilité*' that which, on a purely structural level, makes a potential game out of a situation." (ibid., 217).

The French term *jouabilité* could be translated as “playability” in English. Playability, as user experience, generally refers to methods used to assess the quality of a game’s design (Bernhaupt, Eckschlager and Tscheligi 2007, Nacke et al. 2009). As Regina Bernhaupt noted: “Terms like fun, flow and playability are most often used to explain user experience in game design” (Bernhaupt, Eckschlager and Tscheligi 2007, 309). In practice, the concept is difficult to pin down:

[. . .] more research is needed to create a coherent set of playability heuristics that can be used to evaluate all kinds of digital games in all kinds of different settings and environments [. . .]. (Nacke et al. 2009, 2)

In this sense, the purpose of the playability approach is to determine a matrix of indicators that can be applied to video game products to help assess the quality of the play experience each one offers. This approach is interesting for comparing products between each other. But these approaches fail, at one level, to say in which way it is a “playable experience” and in which way it is not. They do not allow us to determine why situations are suitable or not to be played, and furthermore why situations, which were not considered playable, are now considered, at least semantically, to fall within the *game* family.

Gonzalez Sanchez and colleagues consider playability to be “the degree to which specified users can achieve specified goals with effectiveness, efficiency and especially satisfaction and fun [. . .]” (2012, 1038). They do conceptual work around identified relational forms (and not purely constitutive) in the study of a corpus of video games. It shows that there are different facets of playability (ibid., 1042):

- Intrinsic: playability of the game’s design (mechanisms, rules, etc.)
- Mechanical: playability of the software (communication system, fluency, etc.)
- Interactive: playability of the user interface (controls, dialogues, etc.)
- Artistic: the aesthetic playability (visual graphics, music, storylines, etc.)
- Intrapersonal: the subjective outlook produced by the video game in each player
- Interpersonal: the group awareness that arises when playing the game

Even with this differentiation, we maintain an approach that seeks to identify indicators to assess the quality of objects; although, Sanchez and colleagues do point out that video games are games, of course, and software (“good games can be bad software or vice versa”), and communication tools, and artistic works, but their results especially demonstrate that variability comes from the subjective and facets related to shared experience (ibid., 1049). However, based on the framework outlined here following Henriot, the *jouabilité* of a game, what Jesper Juul describes as the “pull” or desire to play the game (Juul 2010, 2–5), must be considered on a different level, and the game objects and mechanisms highlighted by the proponents of gamification are just one of those levels. A situation becomes playable when the situation inspires the game to “come to mind”. The idea of the game seems to come from both intrinsic object characteristics (rules, interface, graphics, etc.) and the player’s previous personal experience. As Juul noted in his study on casual gamers (ibid., 127), there are several “frames” to consider regarding the playability of a game: the first is related to the game as an object (“the goal orientation and the desire to win”), the following is related to previous experience (“the game as an experience and the desire to participate in an interesting game”), and finally there are the relationships allowed by the game (“the game as a social event and the desire to manage social situations”). As Alain and Frédéric Le Diberder say: “Video games are not a solitary practice that is occasionally shared. It is rather a common practice often played alone” (1998, 171).¹⁰

Following Jacques Henriot, when a game is identified as playable, a specific conduct must be adopted.¹¹ He calls this conduct *le jouer*. What characterises this conduct is that it is based on both obligation and uncertainty (Henriot 1989, 114–115). The obligation does not come from the structure of the game, but from the obligation that is imposed on the player as she or he agrees to play the game. The obligation is not only placed upon the goal, but also upon the means to achieve it (ibid., 235). He calls the obligation an “arbitrary theme” in the sense that it is an individual decision and not a

10 Translation by the author.

11 Henriot prefers the term “conduct” to “behaviour”, as it refers to a voluntary act and not a conditioned one.

transcendent order, even when rules are given by a system, since these rules are only mandatory for the person who wants to play during the time period she or he plays (ibid., 229).

If the essence of any game lies its completion, the path to accomplishment is paved with uncertainty. For Henriot, this uncertainty may be due to different things: the lack of information available to the player, her or his intellectual faculties or position within the situation (ibid., 237). This uncertainty is then subjective and irreducible. In this context of uncertainty, playing is decision-making unaided by rigorous logical deduction. "Playing is always *deciding under uncertainty*" (ibid., 239).¹² He calls this arrangement of means under uncertainty "random patterns" in the sense that players do not often have the resources needed to achieve their project and must "tinker" to do so (ibid., 236).

At least, *playing a game* for Jacques Henriot is the relationship established between the appropriate object and the playful conduct. The foundation of this relationship can be expressed as a metaphor:

The player lives on two levels. He does what he does and at the same time he plays. He plays in doing what he does. His playing is due to the distance he puts and tries to maintain between what he does and what he does when he is doing. (Ibid., 256)

The metaphor is related to both the game and the play illusion, in the sense that the situation is first interpreted as a game, which is itself the result of a metaphorical process. It is a shift in meaning or a second-degree activity: "what characterizes the game is a diversion, a transformation of denotation" (Brougère 2005, 44).

In summary, Jacques Henriot considers that to be taken as a game, a situation must exhibit some characteristics that make it identifiable. But at the same time, none of those characteristics, taken separately or together, are sufficient to make it a game without any mediation. The "idea of game" must come to someone, and this can only happen, in fact, if the person is able to transcend the situation but also to identify the conduct he adopts (playing)

¹² Henriot's emphasis.

as relative to the game. In other words, it is necessary for the person to arrive at the idea that she or he is actually “playing a game” (Henriot 1989, 292–295).

THE FALLACIES OF GAMIFICATION

The serious games designer Olivier Mauco sees a triple fallacy in gamification:

1. The *digitisation* fallacy: There are no new objects or practices, but rather the adoption of other marketing practices like loyalty coupons: “It is only a change of medium.”
2. The *behaviourist* fallacy: Studies in media sociology show that the importance of local cultural practices and devices do not condition individuals because they belong to a social space.
3. The *aesthetic* fallacy: Gamification adopts the arcade persona but only at a visual level. From the ludic side, game is mostly a competition between a player and a system (Mauco 2012, 9–12).

For Mauco, the use of gamification as a marketing technique must be interpreted in the context of the “attention economy”. In a society over-saturated with information, the problem is not the information, but the attention of the public. As he says: “Gamification is the rationalization of the attention’s problem by the use of behavioral techniques.” (ibid.).¹³

Nevertheless, the first fallacy of gamification is simply the *game fallacy*. A game structure, as good as it may be, is not enough to make a game. As Jacques Henriot says, if a “playable” structure is necessary, the game only exists if the idea of game comes to someone’s mind. A game is a game first because someone has been able to communicate *it* through a system of objects and rules; but second because this structure becomes *a game for someone else* through the evolution of its understanding, appropriation, maybe diversions, and surely the sharing of this idea. In brief, when it is played.

“Think like a game designer” (Coursera 2013) is the slogan of gamification’s proponents. Jacques Henriot might say, “No! Think like a player”. When we think like a player, we think of game situations that were exciting and others that we did not like even though people said they were great games. We think about games that occupied us for hours and then we passed

13 Translation by the author.

on to others. We think of tips and tricks that allowed us to circumvent a step that we regarded as boring or for which we did not want to spend the extra hours. And mostly, we think of times when we did not want to play at all. So long as it merely represents a set of proven techniques, gamification will still not guarantee that people will play the game (or the game you think they must play) or that the success will immediately come from the situation. You can dream of Foursquare (2009), World of Warcraft (2004) or Candy Crush (2012) successes, but they are probably more cultural than technical. You can mimic their structures without having the same success. We certainly cannot determine when it's game on... and when it's game over.

BIBLIOGRAPHY

- ALBINET, MARC AND PIERRE MOUSSON. 2010. *Concevoir un jeu vidéo*. Limoges: Fyp.
- BERNHaupt, REGINA, MANFRED ECKSCHLAGER AND MANFRED TSCHELIGI. 2007. "Methods for Evaluating Games: How to Measure Usability and User Experience in Games?" In *ACE '07 Proceedings of the International Conference on Advances in Computer Entertainment Technology*, 309–310. New York: ACM.
- BOGOST, IAN. 2011. "Persuasive Games: Exploitationware." *Gamasutra*, May 3.
http://www.gamasutra.com/view/feature/134735/persuasive_games_exploitationware.php?page=2.
- BROUGÈRE, GILLES. 2013. "Jacques Henriot et les sciences du jeu ou la pensée de Villeteuse." *Sciences du jeu* 1.
<http://sciencesdujeu.univ-paris13.fr/index.php?id=279>.
- BROUGÈRE, GILLES. 2005. *Jouer / Apprendre*. Paris: Economica.
- CAILLOIS, ROGER. 1992 / 1958. *Les jeux et les hommes*. Paris: Gallimard.
- COURSERA. 2013. "3.2 Think Like a Game Designer." Accessed May 1, 2014.
<https://class.coursera.org/gamification-003/lecture/32>.
- DETERDING, SEBASTIAN. 2010. "Pawned: Gamification and Its Discontents." Accessed May 1, 2014.
<http://fr.slideshare.net/dings/pawned-Gamification-and-its-discontents>.
- GEE, JAMES PAUL. 2005. "Learning by Design: Good Video Games as Learning Machines." *E-Learning* 2(1): 5–16.

- GENVO, SÉBASTIEN. 2013. "Penser les phénomènes de ludicisation à partir de Jacques Henriot." *Sciences du jeu* 1.
<http://www.sciencesdujeu.org/index.php?id=243>.
- GENVO, SÉBASTIEN. 2009. *Le jeu à son ère numérique: Comprendre et analyser les jeux vidéo*. Paris: L'Harmattan.
- GONZALEZ SANCHEZ, JOSÉ LUIS, FRANCISCO LUIS GUTIÉRREZ VELA, FRANCISCO MONTERO SIMARRO AND NATALIA PADILLA-ZEA. 2012. "Playability: Analysing User Experience in Video Games." *Behaviour & Information Technology* 10(31). 1033–1054.
- HENRIOT, JACQUES. 2013. "Traces d'un cheminement." *Sciences du jeu* 1.
<http://sciencesdujeu.univ-paris13.fr//index.php?id=214>.
- HENRIOT, JACQUES. 1989. *Sous couleur de jouer*. Paris: Jose Corti.
- HENRIOT, JACQUES. 1969. *Le jeu*. Paris: PUF.
- HUIZINGA, JOHAN. 2008/1938. *Homo ludens: Essai sur la fonction sociale du jeu*. Paris: Gallimard.
- JUUL, JESPER. 2011. *Half-Real: Video Games Between Real Rules and Fictional Worlds*. Cambridge, MA: The MIT Press.
- JUUL, JESPER. 2010. *A Casual Revolution: Reinventing Video Games and Their Players*. Cambridge, MA: The MIT Press.
- LE DIBERDER, ALAIN AND FRÉDÉRIC LE DIBERDER. 1998. *L'univers des jeux vidéo*. Paris: La Découverte.
- LEROUX, YANN. 2011. "Les illusions de la gamification." *Psy et Geek*, September 21.
<http://www.psyetgeek.com/les-illusions-de-la-Gamification>.
- MAUCO, OLIVIER. 2012. "Sur la gamification." *Game in Society*. January 19.
<http://www.gamesinsociety.com/post/2012/01/19/Sur-la-gamification2>.
- MCGONIGAL, JANE. 2011a. *Reality Is Broken: Why Games Make Us Better and How They Can Change the World*. London: Vintage.
- MCGONIGAL, JANE. 2011b. "How To Re-Invent Reality without Gamification." Accessed May 1, 2014.
<http://www.gdcvault.com/play/1014576/We-Don-t-Need-No>.
- NACKE, LENNART E., ANDERS DRACHEN, KAI KUIKKANIEMI, JOERG NIESENHAUS, HANNU J. KORHONEN, WOUTER M. VAN DEN HOOGEN, KAROLIEN POELS, WIJNAND A. IJSSELSTEIJN AND YVONNE A. W. DE KORT. 2009. "Playability and Player Experience Research." Accessed May 1, 2014.
<http://www.digra.org/digital-library/publications/playability-and-player-experience-research-panel-abstracts/>.
- SILVA OCHOA, HAYDÉE. 2013. "La 'gamification' de la vie: Sous couleur de jouer?" *Sciences du jeu* 1.
<http://www.sciencesdujeu.org/index.php?id=55>.
- SILVA OCHOA, HAYDÉE. 2011. "Poétiques du jeu. La métaphore ludique dans la théorie et la critique littéraires françaises au XXe siècle." PhD diss. Université Sorbonne Nouvelle - Paris 3
- WERBACH, KEVIN AND DAN HUNTER. 2012. *For the Win. How Game Thinking Can Revolutionize Your Business*. New York: Wharton Digital Press.
- ZICHERMANN, GABE AND JOSELIN LINDER. 2013. *The Gamification Revolution: How Leaders Leverage Game Mechanics to Crush the Competition*. New York: McGraw-Hill Education.

LUDOGRAPHY

CANDY CRUSH SAGA. 2012. Developed by King. Browsergame. King.

FOURSQUARE. 2009. Dennis Crowley and Naveen Selvadurai.

<http://www.foursquare.com>.

MOUSE IN THE MAZE. 1959. Developed by Massachusetts Institute of Technology. TX-0. Massachusetts Institute of Technology.

SPACE WAR! 1962. Developed by Steve Russel, Martin Graetz and Wayne Wiitanen. DEC PDP-1. Massachusetts Institute of Technology.

TENNIS FOR TWO. 1958. Developed by William Higinbotham. Oscilloscope. Brookhaven National Laboratory.

WORLD OF WARCRAFT. 2004. Developed by Blizzard Entertainment. Windows, OS X. Blizzard Entertainment.